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Complexes of N-thiophosphorylthiourea tBuNHC(S)NHP(S)(OiPr)2 with zinc(II), cadmium(II), nickel(II), and cobalt(II) cations

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Abstract

Reaction of the potassium salt of N-thiophosphorylthiourea tBuNHC(S)NHP(S)(OiPr)2 (HL) with ZnII, CdII, NiII and CoII in aqueous EtOH leads to complexes of common formula M(L-S,S′)2 (ML2). Complexes were investigated by IR, UV-Vis, 1H and 31P{1H} NMR spectroscopy and microanalysis The structure of complex NiL2 was investigated by single crystal X-ray diffraction analysis. The nickel(II) ion has a squre-planar environment, S4, with two anionic ligands involving 1,5-S,S′-coordination mode. The ligands are bound in a trans configuration. © 2008 Wiley-VCH Verlag GmbH & Co. KGaA.

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Keywords

Cadmium, Chelates, Cobalt, Crystal structures, N-thiophosphorylthiourea, Nickel, Zinc